

Amendments to the Claims

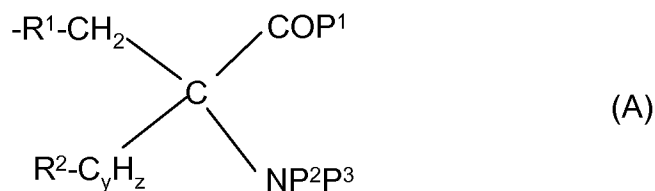
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

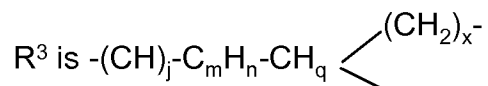
1. (Original) A process for the production of an ^{18}F -labelled tracer which comprises treatment of a solid support-bound precursor of formula (I):



wherein the TRACER is of formula (A):

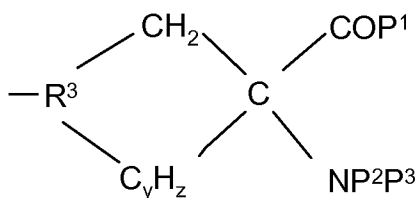


wherein P^1 is hydroxy or a protecting group, P^2 and P^3 are independently hydrogen or a protecting group, R^1 is a bond, $-\text{CH}=\text{CH}-$, or together with R^2 forms R^3 ;



R^2 is hydrogen or together with R^1 forms R^3 ;

such that



is formed

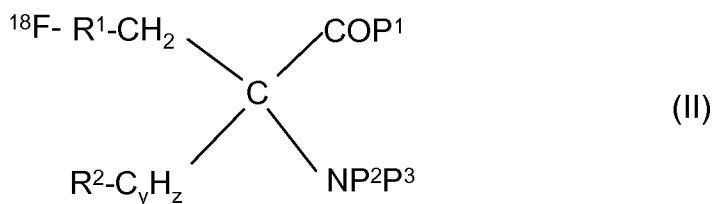
wherein x is 0 or 1;

y is 1 or 2;

z is 1, 2, 3, or 4 and $z > y$ if y is 2;

q is 1 or 0 if n is 1 and j is 0;
n is 1 or 2, but 0 if m is 0;
m is 0 or 1; and
j is 0 or 1;

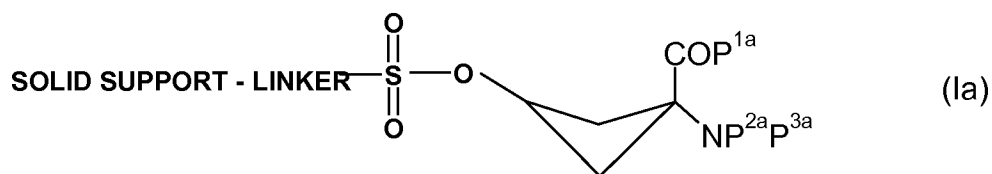
with $^{18}\text{F}^-$ to produce the labelled tracer of formula (II)



wherein R^1 , R^2 , y, z, P^1 , P^2 and P^3 are as defined for the compound of formula (I), optionally followed by

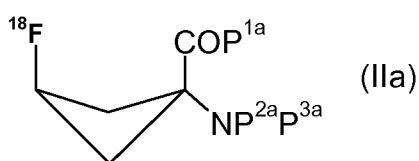
- (i) removal of excess $^{18}\text{F}^-$ for example by ion-exchange chromatography; and/or
- (ii) removal of any protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (II) as an aqueous solution

2. (Original) A process for the production of an ^{18}F -labelled tracer according to claim 1 wherein R^1 and R^2 form the group R^3 .
3. (Previously presented) A process for the production of an ^{18}F -labelled tracer according to claim 1 wherein R^1 and R^2 form the group R^3 and x is 0, y is 1, z is 2, q is 1, m is 0 and j is 0.
4. (Previously presented) A process according to claim 1 for the production of $[\text{}^{18}\text{F}]$ -1-amino-3-fluorocyclobutane-1-carboxylic acid ($[\text{}^{18}\text{F}]$ -FACBC) which comprises treatment of a solid support-bound precursor of formula (Ia):



wherein P^{2a} and P^{3a} are each independently hydrogen or a protecting group, and P^{1a} is hydroxyl or a carboxylic acid protecting group;

with $^{18}\text{F}^-$ to produce the labelled tracer of formula (IIa)

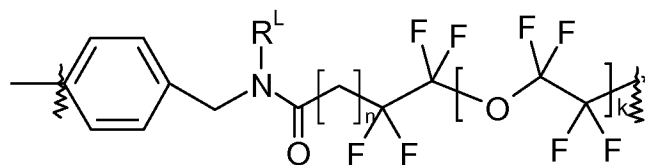


wherein P^{1a} , P^{2a} , and P^{3a} are each as defined in Formula (Ia);

optionally followed by

- (i) removal of excess $^{18}\text{F}^-$, for example by ion-exchange chromatography; and/or
- (ii) removal of the protecting groups; and/or
- (iii) removal of organic solvent; and/or
- (iv) formulation of the resultant compound of formula (IIa) as an aqueous solution.

5. (Original) A process according to claim 4 wherein the LINKER in the compound of formula (Ia) is



wherein k is an integer of 0 to 3, n is an integer of 1 to 16, and R^L is hydrogen or C_{1-6} alkyl.

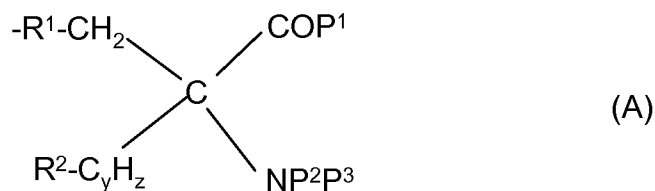
6. (Previously presented) A process according to claim 4 in which P^{1a} is C_{1-6} alkoxy, P^{2a} is hydrogen or C_{1-6} alkoxycarbonyl, and P^{3a} is C_{1-6} alkoxycarbonyl.

7. (Previously presented) A process for the production of a ^{18}F -labelled tracer of formula (II), according to claim 1, for use in PET.

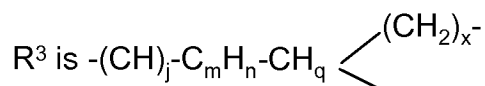
8. (Original) A compound of formula (I)



wherein the TRACER is of formula (A):

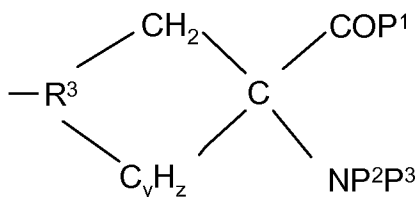


wherein P^1 is hydroxy or a protecting group, P^2 and P^3 are independently hydrogen or a protecting group, R^1 is a bond, $-\text{CH}=\text{CH}-$, or together with R^2 forms R^3 ;



R^2 is hydrogen or together with R^1 forms R^3 ;

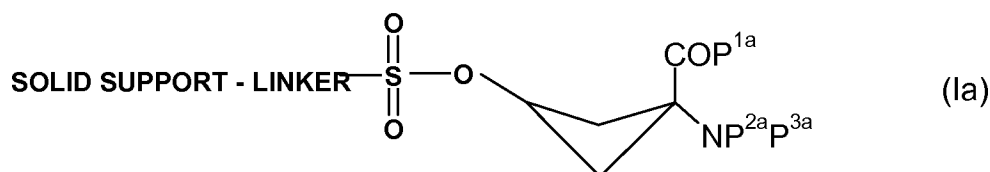
such that



is formed

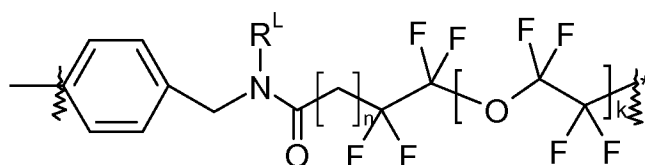
- wherein x is 0 or 1;
- y is 1 or 2;
- z is 1, 2, 3, or 4 and $z > y$ if y is 2;
- q is 1 or 0 if n is 1 and j is 0;
- n is 1 or 2, but 0 if m is 0;
- m is 0 or 1; and
- j is 0 or 1.

9. (Original) A compound of formula (Ia):



wherein P^{2a} and P^{3a} are each independently hydrogen or a protecting group, and P^{1a} is hydroxyl or a protecting group.

10. (Previously presented) A compound according to claim 8 in which the LINKER is



wherein k is an integer of 0 to 3, n is an integer of 1 to 16, and R^L is hydrogen or C_{1-6} alkyl.

11. (Previously presented) A compound according to claim 8, in which P^{1a} is C_{1-6} alkoxy, P^{2a} is hydrogen or C_{1-6} alkoxycarbonyl, and P^{3a} is C_{1-6} alkoxycarbonyl.

12. (Previously presented) A radiopharmaceutical kit for the preparation of an ^{18}F -labelled tracer for use in PET, which comprises:

- (i) a vessel containing a compound of formula (I) or (Ia) as defined in claim 1; and
- (ii) means for eluting the vessel with a source of $^{18}F^-$;
- (iii) an ion-exchange cartridge for removal of excess $^{18}F^-$; and optionally
- (iv) a cartridge for solid-phase deprotection of the resultant product of formula (II) or (IIa) as defined in claim 1.

13. (Previously presented) A cartridge for a radiopharmaceutical kit for the preparation of an ^{18}F -labelled tracer for use in PET which comprises:

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Reply to Office action of Sept. 29, 2006

- (i) a vessel containing a compound of formula (I) as defined in claim 1; and
- (ii) means for eluting the vessel with a source of $^{18}\text{F}^-$.

14-15. (cancelled)